REMARKS

Claims 1-8, 10-20 and 27 are pending in the instant application. Claims 1, 8, 10-13, 18, 19, and 27 are rejected under §102(e) while claims 1-8, 10-20 and 27 are rejected under the judicially created doctrine of obviousness-type double patenting. Claims 1-8, 10-20, and 27 remain for consideration upon entry of this amendment. No new matter has been added.

§102(e) Rejections

Claims 1, 8, 10-13, 18, 19 and 27 stand are rejected under 35 U.S.C. §102(e) as being anticipated by Butler-U.S. Patent No. 6,251,308 (Butler). Applicant respectfully traverses.

To anticipate a claim under 35 U.S.C. § 102, a single source must contain all of the elements of the claim. *Lewmar Marine Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1007 (1988). Moreover, the single source must disclose all of the claimed elements "**arranged as in the claim.**" (Emphasis added.) *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 780, 227 U.S.P.Q. 773, 777 (Fed. Cir. 1985).

The Examiner references Figure 1 of Butler along with column 2, lines 13-22 and column 7, lines 19-42. The Examiner alleges that in Figure 1 of Butler, there are three areas in the plate 10 that depict the inlet and outlet segments and that they are the segments on either side of the single baffles at the top of the triangular formed figures near the bottom of the plate 10 as seen in Figure 1.

In particular, the Examiner alleges that Figure 1 of Butler shows in the portions of the plate at the top of the three triangular formed figures located near the bottom of the plate, three individual "baffles" are formed that extend from the bottom of the horizontal line located near the top third of the plate to the top of the said triangular figures. Such baffles have an inlet segment on the left side of the baffle and an outlet segment on the right side of the baffle, thus forming at least three segment pairs in the plate in Butler.

It is respectfully submitted that Applicants are unable to realize or discern any "segments" in conjunction with "baffles", as neither is described as such in Butler, nor is readily realized in Figure 1 in conjunction with the Examiner's characterization of the same.

Butler more accurately discloses molded into thin plate-like specimens intricately patterned network of very narrow, relatively smooth, flow passages used as electrochemical cell bipolar plates. (See Field of Invention.) More specifically with reference to Figure 1 which the Examiner relies, Butler discloses that plate 10 includes a fluid flow face with **one or more generally parallel and or serpentine flow channels** 12. The flow channels receive and transmit fluids through ports 14 and 16 which are in fluid communication with corresponding entry and exit fluid manifolds 18 and 19. The plate may include a number of peripheral through holes 20 that act as a manifold for fuel transportation. (Col. 7, lines 30-42.) Butler does not disclose segments of any kind, never mind a plurality of segments, wherein each segment pair includes an inlet segment and an adjacent outlet segment with a baffle disposed therebetween.

Moreover, Butler specifically states that "[t]he drawing of this plate is intended to illustrate the molding capabilities of the conductive compound of the present invention. It is not necessarily intended to provide optimal, or even operative, field flow design. It should not limit the invention in any way." Col. 7, lines 27-29. Thus, Butler merely teaches with respect to Figure 1 upon which the Examiner relies, the molding capabilities of the conductive compound disclosed in Butler. Col. 7, lines 25-27. Butler admittedly does not teach or suggest any kind of optimal or even an operative field flow design.

Butler does not teach or suggest delineated segment pairs each comprising an inlet segment and an adjacent outlet segment with a baffle disposed therebetween, wherein said inlet segments are in fluid communication with an inlet, subsequent inlet segments, and adjacent outlet segments, and said outlet segments are in fluid communication with an outlet and subsequent outlet segments, as in claims 1, 13, and 27. Thus claims 1, 13, and 27, including claims depending therefrom, i.e., claim 2-8, 10-12, and 14-20, define over Butler.

With regard to Applicant's prior argument that Butler also does not disclose segment pairs wherein inlet segments are in fluid communication with an inlet, subsequent inlet segments, and adjacent outlet segments, and said outlet segments are in fluid communication with an outlet and subsequent outlet segments, the Examiner responds by addressing Figure 1 in Butler again. The Examiner alleges that Butler discloses that 18 is the inlet and 19 is the outlet. The Examiner further alleges that there are at least three segment pairs in Butler and these pairs meet the recitations with respect to Applicant's claims. The Examiner characterizes Butler as disclosing the segment at the far left is the first segment pair, the segment in the middle is the second segment and the segment to the far right is the third segment. The Examiner concludes that the second and third segments comprise the subsequent inlet and outlet segments and of course, each of these segments are in fluid communication with the first segment because the fluid flows completely throughout plate 10 in Butler, thus Butler teaches the electrode fluid distributor as claimed.

It is respectfully submitted that this characterization of Butler is also improper and still does not meet the recitations with respect to the Applicant's claims. The Examiner states that the first segment "pair" of the plurality of segment "pairs" is the segment at the far left in Figure 1 of the three segments. However, the far left segment "pair" includes 11 adjacent inlet flow channels 12 all extending from the inlet 18. There is no teaching or suggestion of "segment pairs" as claimed and described. Furthermore, there is no teaching or suggestion of each segment pair comprising an inlet segment and an adjacent outlet segment with a baffle disposed therebetween as claimed and described, since an operable flow design is neither taught nor suggested in Butler. Still further, with respect to the Examiner's characterization of the three baffles shown in Butler, Butler does not teach fluid communication therethrough as it is claimed and described in Applicant's claim recitations.

Claims 1, 8, 10-12 and 27 stand rejected under 35 U.S.C. §102(e) as being anticipated by Zeng-US 6,461,754 (Zeng). Applicant respectfully traverses.

The Examiner makes reference to Figures 1 and 2 of Zeng, along with column 3, line 44 through column 4, line 29, which the Examiner alleges teach fluid segments in a fuel cell. The Examiner alleges that Figure 1 of Zeng teaches specifically, that there are

three inlets, 111, 121 and 131 and three outlets, 112, 122 and 132, respectively. The Examiner concludes that thus the first pair is inlet/outlet 111/112, the second pair is inlet/outlet 121/122 and the third pair is inlet/outlet 131/132 and using column 4, lines 16-29 of Zeng stating these segments are in fluid communication with one another. The Examiner alleges that the baffles between the adjacent inlet and outlet of each segment pair are the walls separating the inlet from the outlet as seen in Figure 1. In response to Applicant's previous arguments with respect to Zeng, the Examiner states that each segment pair comprises the claimed inlet and outlet and that it is also noted that the claimed subsequent inlet and outlet segments are met by the second and third pair of segments.

However, Zeng teaches away from subsequent inlet and outlet segments being in fluid communication with inlet segments and outlet segments, respectively. More specifically, as relied on by the Examiner, Zeng teaches that "[t]he coolant inlet port 121 and the coolant outlet port 112 which are located close to each other are in fluid communication with each other. Likewise, the coolant inlet port 131 and the coolant outlet port 122 which are located close to each other are in fluid communication with each other. Thus, the first divisional passage 11, the second divisional passage 12 and the third divisional passage 13 are **in a series connection**." (Emphasis added.) Col. 4, lines 22-29. Accordingly, Zeng teaches away from outlet 112 being in fluid communication with subsequent outlets 122 and 132, as outlet segment 112 is in fluid communication with inlet 121 via heat exchanger 21 (see Fig. 2). Likewise, Zeng teaches away from inlet 121 being in fluid communication with subsequent inlets 111 and 131, as inlet 121 is in fluid communication with outlet 112 via heat exchanger 21 (see Fig. 2).

More specifically, Zeng discloses that the coolant is introduced into the first divisional passage 11 by way of the coolant inlet port 111, the coolant then flows or passes through the first divisional passage 11 and goes outside the fuel cell by way of the coolant outlet port 112. The coolant is then introduced into the heat exchanger 21 which is placed outside the fuel cell so as to be cooled down or warmed up, and is then introduced into the coolant inlet port 121 of the second divisional passage 12. The coolant introduced into the second divisional passage 12 goes or flows therethrough and goes outside the fuel cell from the coolant outlet port 122. The coolant is then introduced

into the heat exchanger 22 which is placed outside the fuel cell so as to be cooled down or warmed up, and is then introduced into the coolant inlet port 131 of the third divisional passage 13. The coolant introduced into the third divisional passage 13 goes or flows therethrough and goes outside the fuel cell from the coolant outlet port 132. Col. 4, lines 49-67.

In addition, Zeng discloses with respect to Fig. 2 that an externally positioned **heat exchanger 21** for the temperature control of the coolant is interposed or provided between the mutually closely arranged coolant outlet port 112 and the coolant inlet port 121. Similarly, an externally positioned **heat exchanger 22** for the temperature control of the coolant is interposed or provided between the mutually closely arranged coolant outlet port 122 and the coolant inlet port 131. Thus, Zeng teaches away from said inlet segments are in fluid communication with . . .subsequent inlet segments, . . . and said outlet segments are in fluid communication with . . . subsequent outlet segments, as in claims 1, 13 and 27.

Moreover, Zeng does not teach a baffle between an inlet segment and an adjacent outlet segment of each segment pair. In particular, the Examiner equates the "baffle" to the wall between adjacent inlet and outlet pairs as seen in Fig. 1. However, Figs. 2 and particularly Fig. 4 of Zeng show common distribution manifolds 1120, 1210, 1220, 1310, and 1320 establish mutual connections of the plural coolant inlet ports 121, the plural coolant inlet ports 131, the plural coolant outlet ports 112, the plural coolant outlet ports 122, and the plural coolant outlet ports 132. Col. 4, lines 42-47. Thus, Zeng teaches away from a baffle between an inlet segment and an adjacent outlet segment of each segment pair as claimed and described.

Thus claims 1, 13, and 27, including claims depending therefrom, i.e., claim 2-8, 10-12, and 14-20, define over Zeng.

Double Patenting Rejection

Claims 1-8, 10-20 and 27 stand rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2-16, 18 and 25-29 of U.S. Patent No. 6,613,469. Although the Examiner admits that the conflicting claims are not identical, the Examiner alleges that they are not patentably distinct from each

other because the present application recites the baffle extending from the separator toward the first electrode, which limitation is not part of the 6,613,469 patent claimed subject matter. The Examiner concludes that it would have been obvious to one of ordinary skill in this art to have extended the baffle in the 6,613,469 structure so that a higher efficiency of air flow would have been achieved in the distributor therein. Applicant respectfully traverses.

Applicant acknowledges that a timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b). Applicant further acknowledges that effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer and that a terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

It is respectfully submitted that Applicant reserves the right to timely file a terminal disclaimer upon final disposition of the claims.

CONCLUSION

It is believed that the foregoing remarks fully comply with the Office Action. Accordingly, reconsideration and allowance is requested.

If, however, any issues remain, the Examiner is cordially invited to contact the undersigned so that such issues may be promptly resolved.

In the event any further fees are due with respect to this amendment or otherwise, please charge them to Deposit Account No. 06-1130, maintained Applicants' Attorneys.

Respectfully submitted,

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